General

Guideline Title

Pituitary adenomas.

Bibliographic Source(s)

Alberta Provincial CNS Tumour Team. Pituitary adenomas. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2012 Aug. 9 p. (Clinical practice guideline; no. CNS-006). [34 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Prolactin (PRL)-Secreting Adenomas

1. The primary treatment is dopamine-agonist therapy, such as bromocriptine or cabergoline.
2. Surgery is recommended for patients with symptomatic progression or with no response or intolerance to the dopamine agonist.
3. Radiotherapy is used occasionally if the dopamine agonist and surgery fail, or if the patient develops intolerance to the dopamine agonist.

Adrenocorticotropic Hormone (ACTH)-Secreting Adenomas

4. The primary treatment is surgery, usually with a transsphenoidal approach.
5. Repeat surgery or radiotherapy with a steroidogenesis inhibitor may be recommended for incomplete resection or for persistent disease.

Growth Hormone (GH)- and Thyroid Stimulating Hormone (TSH)-Secreting Adenomas

6. Standard treatment options include surgery (usually a transsphenoidal approach), bromocriptine, somatostatin analogue (e.g., octreotide), growth-hormone antagonist, or surgery plus postoperative radiotherapy. Maximal reductions in growth-hormone levels may not be seen for years after institution of radiotherapy, during which time medical therapy may continue to be required.

Non-Functioning Adenomas

7. Surgical resection (usually a transsphenoidal approach) is indicated for patients with enlarging tumours or visual changes.
8. Radiotherapy or continued observation is recommended for incompletely resected tumours.

Radiation Therapy Principles

9. In general, radiotherapy for pituitary adenomas is delivered at a dose of 45 to 50.4 Gy in 1.8 to 2.0 Gy per fraction, taking care to observe tolerance of the optic pathway to radiation. The maximum dose to the optic structures should be limited to 8 Gy in a single fraction treatment, if used.
10. Stereotactic radiosurgery presents as potential alternative radiotherapy approach in selective cases.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Pituitary adenomas:

- Prolactin (PRL)-secreting adenomas (prolactinomas)
- Adrenocorticotropic hormone (ACTH)-secreting adenomas
- Growth hormone (GH)-secreting adenomas
- Thyroid-stimulating hormone (TSH)-secreting adenomas
- Mixed adenomas
- Non-functioning adenomas

Guideline Category

Management

Treatment

Clinical Specialty

Endocrinology

Neurological Surgery

Neurology

Oncology

Radiation Oncology

Surgery

Intended Users

Physicians

Guideline Objective(s)

To evaluate the optimal treatment for adult patients with hormonally active (functioning) and non-functioning pituitary adenomas

Target Population

Adults over the age of 18 years with hormonally active (functioning) and non-functioning pituitary adenomas

Note: Different principles may apply to pediatric patients.

Interventions and Practices Considered

Prolactin (PRL)-Secreting Adenomas

1. Dopamine-agonist therapy, such as bromocriptine or cabergoline
2. Surgery
3. Radiotherapy*

Adrenocorticotropic Hormone (ACTH)-Secreting Adenomas

1. Surgery, usually with a transsphenoidal approach
2. Repeat surgery or radiotherapy* with a steroidogenesis inhibitor for incomplete resection or for persistent disease

Growth Hormone (GH)- and Thyroid Stimulating Hormone (TSH)-Secreting Adenomas

1. Surgery, usually with a transsphenoidal approach
2. Bromocriptine
3. Somatostatin analogue (e.g., octreotide)
4. Growth-hormone antagonist
5. Surgery plus postoperative radiotherapy*

Non-Functioning Adenomas

1. Surgical resection, usually with a transsphenoidal approach)
2. Radiotherapy* or continued observation for incompletely resected tumours

*Stereotactic radiosurgery as potential alternative to radiotherapy in selected cases.

Major Outcomes Considered

- Symptom relief
- Disease-free survival
- Tumour control rates
- Remission rates

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Research Questions

Specific research questions to be addressed by the guideline document were formulated by the guideline lead(s) and Knowledge Management (KM) Specialist using the PICO question format (patient or population, intervention, comparisons, outcomes).

Guideline Questions

1. What is the optimal treatment for adult patients with hormonally active (functioning) pituitary adenomas?
2. What is the optimal treatment for adult patients with non-functioning pituitary adenomas?

Search Strategy

Medical journal articles were searched using the Medline (1950 to August Week 3, 2009), EMBASE (1980 to August Week 3, 2009), the Cochrane Database of Systematic Reviews (3rd Quarter, 2009), and PubMed electronic databases; the references and bibliographies of articles identified through these searches were scanned for additional sources. The search terms included: Pituitary Neoplasms [MeSH heading], Prolactinoma [MeSH heading], Pituitary ACTH Hypersecretion [MeSH heading], ACTH-Secreting Pituitary Adenoma [MeSH heading], Acromegaly [MeSH heading], Growth Hormone-Secreting Pituitary Adenoma [MeSH heading], practice guidelines, systematic reviews, meta-analyses, randomized controlled trials, and clinical trials. For the 2012 update of this guideline, the same search criteria were used. Articles were excluded from the review if they: had a non-English abstract, were not available through the library system, were case studies involving less than 5 patients, or were published prior to the year 2009.

A review of the relevant existing practice guidelines for pituitary adenomas was also conducted by accessing the practice guidelines on the websites of the British Columbia Cancer Agency (BCCA), the National Comprehensive Cancer Network (NCCN), the National Institute for Health and Clinical Excellence (NICE), the International Radiosurgery Association (IRSA), and the National Cancer Institute (NCI).

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Not stated

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evidence was selected and reviewed by a working group comprised of members from the Alberta Provincial CNS Tumour Team and a Knowledge Management (KM) Specialist from the Guideline Utilization Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field).

Evidence Tables

Evidence tables containing the first author, year of publication, patient group/stage of disease, methodology, and main outcomes of interest are assembled using the studies identified in the literature search. Existing guidelines on the topic are assessed by the KM Specialist using portions of the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument (http://www.agreetrust.org) and those meeting the minimum requirements are included in the evidence document. Due to limited resources, GURU does not regularly employ the use of multiple reviewers to rank the level of evidence; rather, the methodology portion of the evidence table contains the pertinent information required for the reader to judge for himself the quality of the studies.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Formulating Recommendations

The working group members formulate the guideline recommendations based on the evidence synthesized by the Knowledge Management (KM) Specialist during the planning process, blended with expert clinical interpretation of the evidence. As detailed in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field), the working group members may decide to adopt the recommendations of another institution without any revisions, adapt the recommendations of another institution or institutions to better reflect local practices, or develop their own set of recommendations by adapting some, but not all, recommendations from different guidelines.

The degree to which a recommendation is based on expert opinion of the working group and/or the Provincial Tumour Team members is explicitly stated in the guideline recommendations. Similar to the American Society of Clinical Oncology (ASCO) methodology for formulating guideline recommendations, the Guideline Utilization Resource Unit (GURU) does not use formal rating schemes for describing the strength of the recommendations, but rather describes, in conventional and explicit language, the type and quality of the research and existing guidelines that were taken into consideration when formulating the recommendations.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This guideline was reviewed and endorsed by the Alberta Provincial CNS Tumour Team.

When the draft guideline document is completed, revised, and reviewed by the Knowledge Management Specialist and the working group members, it is sent to all members of the Provincial Tumour Team for review and comment. The working group members then make final revisions to the document based on the received feedback, as appropriate. Once the guideline is finalized, it is officially endorsed by the Provincial Tumour Team Lead and the Executive Director of Provincial Tumour Programs.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management and treatment of adult patients with hormonally active (functioning) and non-functioning pituitary adenomas

Potential Harms

Side effects of therapy

Qualifying Statements

Qualifying Statements

The recommendations contained in this guideline are a consensus of the Alberta Provincial CNS Tumour Team and are a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.

Implementation of the Guideline

Description of Implementation Strategy

- Present the guideline at the local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services website.
- Send an electronic notification of the new guideline to all members of Alberta Health Services, Cancer Care.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Alberta Provincial CNS Tumour Team. Pituitary adenomas. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2012 Aug. 9 p. (Clinical practice guideline; no. CNS-006). [34 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 Aug

Guideline Developer(s)

CancerControl Alberta - State/Local Government Agency [Non-U.S.]

Source(s) of Funding

Alberta Health Services, Cancer Care

Guideline Committee

Alberta Provincial CNS Tumour Team

Composition of Group That Authored the Guideline

Not stated

Financial Disclosures/Conflicts of Interest

Participation of members of the Alberta Provincial CNS Tumour Team in the development of this guideline has been voluntary and the authors have not been remunerated for their contributions. There was no direct industry involvement in the development or dissemination of this guideline. Alberta Health Services, Cancer Care recognizes that although industry support of research, education and other areas is necessary in order to advance patient care, such support may lead to potential conflicts of interest. Some members of the Alberta Provincial CNS Tumour Team are involved in research funded by industry or have other such potential conflicts of interest. However the developers of this guideline are satisfied it was developed in an unbiased manner.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Alberta Health Services Web site .

Availability of Companion Documents

The following is available:

- Guideline utilization resource unit handbook. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2011 Dec. 5 p. Electronic copies: Available in Portable Document Format (PDF) from the Alberta Health Services Web site .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on December 31, 2012. The information was verified by the guideline developer on February 5, 2013.

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